

ABSTRACT OF THE DISCLOSURE

To provide a four-cycle combustion engine wherein the air-fuel mixture can be smoothly passed at all times by the utilization of the reciprocating motion of the piston to effectively lubricate the valve operating mechanism and the cranking mechanism and also to allow the air-fuel mixture to be supplied into the combustion chamber with a high suction efficiency, the four-cycle combustion engine includes a valve operating mechanism (30) including a valve drive unit (23) for driving intake and exhaust valves (19, 20) and a drive transmitting unit (29) for transmitting a rotary drive of a crankshaft (8) to the valve drive unit (23), a valve chamber (18) accommodating the valve drive unit (23) and communicated with an intake port (40), an intake passage (33) through which an air-fuel mixture (M) containing a lubricant oil is introduced into the valve chamber (18), a first passage (24) accommodating the drive transmitting unit (29) and connecting between the valve chamber (18) and the crankcase chamber (7), and a second passage (41) connecting between the crankcase chamber (7) and the valve chamber (18). By utilization of the reciprocating motion of the piston (9), a portion of the air-fuel mixture (M) fed from the intake passage (33) is circulated through a circulating passage made up of the valve chamber (18), the first passage (24), the crankcase chamber (7) and the second passage (4).